

ABSTRACT

ALLOY PIPES AND METHODS OF MAKING SAME

5 A profiled tube (50b) comprising a high carbon content alloy (greater than 0.3%),
superalloy or other high creep strength material, has a fluted bore with internal fins (52b)
and intervening valleys or troughs (56b). Such a tube is made by centrifugal casting and
subsequent electrochemical machining by drawing of an electrode (104) along the tube
while at the same time passing electrolyte along the tube and around the electrode and
also applying an electrical current between the tube and electrode, so that material of the
10 tube passes into solution in the electrolyte.

The electrode (104) has the same profile as the end-profile required in the tube
(80) but has an inclined working face (124). An electrode rod (92) drives the electrode
from one end mounting means (82) to another (84), each of which support the tube (80)
and supply/exhaust electrolytic solution. The electrolyte is preferably sodium nitrate,
15 although an acid based system is feasible.

09074168-060401